

Punton (J.)

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as Factors in the
Causation and Propagation
of Nervous Diseases---*

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“THE NEUROPATHIC CONSTITUTION, EDUCATION
AND MARRIAGE AS FACTORS IN THE CAUS-
ATION AND PROPAGATION OF
NERVOUS DISEASES.”

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GENTLEMEN: The department of medicine which relates to Neurology has, in large measure, been handed over and become, as it were, the exclusive field of a part of the profession known as “specialists.” Hence I may be accused of presenting (in this, my first contribution to this society,) a subject which offers little interest or benefit to the general practitioner. Such a conclusion on their part, however, is not only a mistaken idea but naturally leads to an indifference to those very studies which are of the utmost importance in the prevention and spread of the more common nervous diseases.

That there is a demand for specialism in medicine is universally conceded, and as medical knowledge increases we must, of necessity, specialize

more and more; but while this be true, nevertheless, we must not ignore the fact that the practical exigencies of our practice is such that its members must know something about all its specialties in order to be scientific and successful. Every practitioner of medicine recognizes that nervous diseases are increasing and multiplying at a marvelous rate, and there are physiologists who do not hesitate to assert that both the European and American races are deteriorating as their civilization becomes crystallized, and that this deterioration is not only seen in the royal families, where intermarriage is the rule, but also, in the middle classes of society.

In a general way this is accounted for by the increased demands of modern civilization, and consequent increased complexity of the nervous system and general life.

Recognizing, therefore, the enormous increase of neurotic affections, it is highly fitting that we devote some attention to its consideration.

It is foreign to my purpose to enter into any lengthy detail concerning the numerous causes which comprise the etiology of nervous diseases, as, of course, you are already familiar with them. But there are at least two or three which I desire, especially, to call your attention to at this time, as they contribute so much towards this great and growing evil, and are to some extent, at least, within your province to try and correct.

To my mind the most conspicuous and important cause, and that which underlies all the rest in producing and propagating all forms of nervous diseases is the transmission through successive generations of that peculiar bodily condition we term the *Neuropathic Constitution*.

This manifests itself by nervous instability and defective innervation of the organic functions, materially influencing the normal development of the nervous system and other parts of the organism in the offspring, and makes itself felt by a constant tendency to degenerative changes in the nerve elements, rendering the subjects of it peculiarly liable to break down under stress of circumstances which would not affect persons inheriting a different constitution.

That a certain predisposition or tendency to disease is transmitted from parent to child is now generally conceded, and oftentimes is the only responsible agent for the presence, in the child, of any one of the various forms of nervous disease, such as neuralgia, headache, chorea, hysteria, epilepsy, together with many other more serious organic spinal and cerebral diseases, including *insanity*. As physicians we do not presume to explain all the intricate details concerned in the genesis or the pathological changes occurring in the tissues and cells, as the laws which govern the transmission of hereditary traits and characteristics are generally unknown. But the

number and diversity of inheritable deviations of structure and function are endless, and these are what we have to deal with.

These abnormal conditions of inheritance are often the result of imperfect growth, defective nutrition, incorrect habits, injudicious education and modes of life of the parents, the general effects of which tend to lower the normal standard of health, and are marked by having special injurious influence upon the general development of the nervous system, impairing its functions and exhausting its specific energies. The morbid products resulting from such deterioration are readily transmissible from parent to child, and furnish the germs which, in the offspring, establish the neuropathic constitution.

They are the seeds which may or may not remain latent for years, but if subject to the stimulating processes belonging to the educational period or the excesses incident to society life, they rapidly mature and strengthen until they manifest themselves in some serious form of nervous disease.

This morbid inheritance, therefore, may be said to constitute the powder, while the various agencies referred to furnish the match, the two coming in contact causes an explosion of nerve force, which manifests itself in the form of some nervous disease.

The same causes which produced the deterioration in the parents is sometimes allowed to have full sway in the child already predisposed, and then a still greater deterioration is liable to occur. How many of us are acquainted with families where the normal correlation of force and energy belonging to the vascular, muscular and nervous systems were sadly deficient, and where by virtue of this, grave disorders of the nervous system were developed. Then again we may notice the close relation or affinity one nervous disease bears to another, and where examples of a great many may be present in members of the same family. Take, for instance, the following case, as taken from the practice of Dr. Carpenter, of Boston:

“A father affected with loco motor ataxia, one of his children dying of tubercular meningitis, another stricken with epilepsy, a third as having hysteria, a fourth being subject to attacks of aphasia, a fifth being a confirmed dipsomaniac, while a sixth becomes the victim of chronic mental disease.”

The doctor also adds that this family had been under his personal observation for a long time, and was one where no cause could be found other than an *inherited neuropathic constitution*.

I could cite similar examples of less marked character as coming under my own personal observation, but surely this is sufficient to prevent any difficulty on your part in recognizing the close affinity of the various forms

of nervous diseases in families where no obvious cause can be assigned, other than a morbid neuropathic constitution.

From this and many other considerations, I believe this morbid inheritance is the greatest pathological evil of this age, and the responsible agent or a large share of the increased production and multiplication of all forms of nervous diseases.

At this point it may be well for me to remind you that this neuropathic constitution may not only be *congenital* but also *acquired*, and that persons born of healthy parents can, by the excessive use and abuse of certain agents, such as alcohol, opium, excesses and strains of all kinds, overstudy, etc., produce this very distressing bodily ailment.

From the foregoing, then, we learn that children born of neurotic parentage inherit a weakness from the start, and as growth and development takes place we find them peculiarly liable to break down and become victims of nervous disease, in the formative period of their lives, and this is more liable to occur at the physiological crises, viz.: Puberty, menstruation, pregnancy, lactation, and menopause. It is also important to remark here that females are more susceptible to its influence than the male sex, although men may be subject to it.

Another very important causative agent in the production, multiplication and propagation of nervous diseases is that of

EDUCATION.

All education should be governed and based upon an intelligent recognition of physiological laws of growth and a sympathy as well as a proper adaptation to them. There exists in the nature of every child certain laws of growth and corresponding capacities, the proper development of which depends, to a large extent, upon the general bodily constitution of the individual.

The natural law of progressive development is as gradual in its operation as the growth of trees and flowers, and if during its formative period, while the child is young or delicate, it unduly exercises or stimulates any organic function, the body will never be brought to the highest state of development of which it is capable.

By thus interfering with the natural sequence of the evolution of the body, we disturb the normal equilibrium of its various parts, and thus seriously mar the harmonious relation which should exist between the mental and physical constitutions. In a well developed organization the normal equilibrium of its every force perfectly balances, and to use the words of an eminent medical physiologist, there should be no power in a higher center or ganglia to compel a lower one to do more than it is fitted or capable of doing.

The fatigue following their normal use should be absolute, in themselves, to compel periods of rest, and yet we all know that it is counted a great power and achievement for any man or woman to possess the power of being able to work, think, feel, walk or wake, not according to their innate capacity for these, but according to his or her wish, or the imagined necessity of the occasion. Now the exercise of such a power is really a want of proper nervous adjustment or balance, and is a physical imperfection not to be desired or encouraged; indeed, it is a very dangerous possession to those who inherit a neuropathic constitution. We must remember that the functional activity of the brain and nervous system is established at different epochs, and perfected at different rates. By cautious stimulation we bring it to its highest development, but by undue haste and excessive use we ruin its normal equilibrium.

In the stimulating process of the educational period, the cerebral cortex, which is the seat of all conscious mental action, undergoes a change of function corresponding to its excessive stimulation, and which, if long continued, culminates in a preponderance of nerve action, which is highly characteristic of the neuropathic constitution.

The nervous system, with the brain as its supreme controlling center, rigidly obeys the natural law of evolutionary precedence, and its functional energies are as gradual in attaining their full force and capacity as any other special apparatus of the body. Anything, therefore, which has a tendency to force these powers and capacities interferes with its normal equilibrium, and consequently becomes the cause of its impairment and disease.

It has become the custom of the present day for school and college professors in all the various departments of learning, to prescribe for their pupils what is termed *Higher Education*, which simply means the study of the more intricate problems relating to their special departments, believing this to be the one thing needful to accomplish any and every purpose in life. Thus the ancient Roman law of physical excellence is completely reversed in our day, and with us intellectual superiority and mental achievements take precedence of all aims and duties of life. In the effort to excel and master, every other part of the organism becomes unduly subservient to the intellect. In this way the natural physiological law of evolutionary precedence is wholly ignored.

Today the instruction of children is conducted on purely business principles, without regard to their physiological strength or capacity. The largest amount of knowledge is to be acquired in the shortest time possible. Rapid progress and intellectual supremacy is the highest test of a desirable

school, and the teachers that are most in demand and sought after are those who are the most earnest and zealous in their work.

A magnetic power of inspiration is the qualification par excellence in a teacher, and those who do not possess this gift need not apply. In other words, that teacher is most in demand today who can secure the greatest brain tension during the allotted hours of study.

Intellectual achievement is the goal which all are seeking, irrespective of age, sex, mental or physical strength or capacity. The home management of children also contributes its share to this brain tension. Late entertainments, reading exciting works of fiction, social pleasures, and strains of all kinds tend to bring about in them morbid and unnatural growth.

That which does not furnish excitement and novelty is now considered dull and stupid. Nervous excitement is at a premium, and, therefore, prevails in the homes, schools, church, and, indeed, every relation in life.

A recent writer says it is a question whether the competitive examinations, as now carried on in schools and colleges, are not doing more to *enervate* the mind than to *strengthen* it. Those who attain the highest honors are generally found to be diseased.

Intellectually speaking, every mind has a track of its own. To place all children on an equal mental footing when they reach a certain age, is a violence to nature which brings its own equivalent in physical and mental deterioration. We may as well look for easy walking in a Chinese lady, whose feet have been subject to unphysiological methods, as for children of neurotic constitutions to develop a sound mind in such a defective body.

In an address recently delivered in London, by the president of the British Medical Association, he stated very positively that the higher education of women was having a very distressing and pernicious effect upon their physical health, and that its indulgence was one of the greatest mistakes of the age. The truth of his proposition, he claimed, was demonstrated more particularly in the case of American women whom, he said, were undoubtedly deteriorating physically in proportion to the amount of high mental culture they received. He said further, that his views were in accord with those of the more noted American medical psychologists and gynecologists.

A shrewd international observer said in New York, quite recently, that in his judgment, the English girl of 18 compares mentally with the American girl of 12, while the American girl of 18 was represented in English society only by the young unmarried women; but while this may be true, he also said that the *English girl of 80 has no rival anywhere*.

In the foregoing we recognize that certain causes produce certain effects, and we can readily see how inevitably the future generations are influenced by, and how much depends upon, the good health and the proper mode of living of the present, and to make definite practical use of the truths herein enunciated, we must take upon ourselves the full function of our mission, and become public *teachers* in the widest and fullest sense, by using every means at our disposal toward influencing those with whom we come in contact, to study the laws of health to reform their habits, encourage temperance, and instruct in all matters that pertain to hygiene, and further in every way a more complete general knowledge of the human organism, and the laws and forces which govern and regulate it. There is no doubt that the short duration of life and the habits and modes of living of many persons can be attributed solely to their profound ignorance of themselves, and consequent neglect of the laws of physiology, and surely there is no subject of more vital importance to the general interests of mankind than a knowledge of human nature and the laws which govern and regulate it. The consequences of their habitual neglect and ignorance entails upon their progeny untold misery, much of which might be prevented by a more intelligent understanding of themselves.

It might be asked here, what can be done in a practical way to remedy this great and growing evil? To deny that this is a difficult problem would be absurd, and yet it is obvious to all that something more is needed to be done than is now being done.

That the neuropathic constitution and its baleful influence upon the rising generation is not as well understood by the masses as it should be, is very evident to all of us.

The reason for this, perhaps, is not altogether their own fault, but may be explained to some extent, at least, by the prevailing false system of medical ethics which condemns any attempt on the part of the members of the profession to popularize purely medical topics without fear of reproach or censure. Too many forget that the relation of the physician to society is not only that of a *therapeutist*, but also a *conservator of the public health*. It seems to me that the full mission of a well rounded and cultured physician is not complete if his educational attainments are solely bestowed upon the medical fraternity, and those coming within his range for treatment.

In addition to what may be termed his strictly professional duties he also owes a duty to the public and to society in general. In the past it is undoubtedly true that the attention and effort of the profession has been far too exclusively directed to the solution of problems connected with the *cure*

of disease, and that the great overshadowing importance of its *prevention* has not always been sufficiently recognized.

The duty of every man, however, who deals with his profession as a noble and humane science, is rather to point out the methods of preventing the occurrence and eradicating, if possible, latent constitutional defects than to confine his attention solely to the treatment of its active manifestations. The vast amount of preventable disease which is filling thousands of premature graves and destroying the hopes and happiness of both the young and old in every community of our land, certainly demands the earnest attention of the medical profession.

So long as we, as physicians, remain indifferent to this great and growing evil, just so long will nervous diseases continue to increase and multiply and swell the rate of premature mortality. In this connection it affords me pleasure to note that several of the more advanced progressive members of our profession both in Europe and America, now recognize the great need and utility of a more general dissemination of medical knowledge among the masses, and are advocating its adoption as one of the most powerful agents in the prevention and spread of nervous diseases.

"Any work," says Dr. Mann, in his recent work on Psychological Medicine, "that we, as physicians, do towards influencing the public to study the laws of health to reform their habits of living, to promote the use of baths, to encourage temperance, ventilation and due exercise, and to further a more complete knowledge of the human organism, and the laws and forces which govern and regulate it, and in diffusing a knowledge of all the means necessary for the preservation of good health, will produce its exact equivalent of results in the prevention of disease. We shall thus develop in the masses an intelligent, self-helping character, tending to robustness of body and robustness of mind."

Another favorable field for a more thorough practical drill in matters pertaining to mental hygiene and the study of physiology is in the *public school*. In making this statement I am not unmindful that some attempt has been made in this direction, but as far as my observation and experience goes it is merely an attempt.

Very few pupils (and shall I say principals of schools) realize the full force and power of one of the very first principles of physiology, viz.: That within certain limits the growth of an organ is in proportion to its exercise, and that all excessive exercise is followed by a corresponding depression. If this law was more fully understood and obeyed there would be less headache and disease attributed to the public school. In those cases where the neuropathic constitution is inherited, we can certainly declare that the

morbid inheritance is not a mysterious and necessarily fatal doom, certain at some time or other to overwhelm its victim. It is purely a physical defect, which can be remedied and even cured, and loses half its horror when this is fully realized and understood.

We may not, it is true, be able to explain fully its intricate pathology, but we do know it manifests itself in a great variety of distressing forms of nervous diseases, and the wise physician is he who, after duly recognizing the morbid taint, anticipates the pathological conditions likely to arise in consequence of such, and, therefore, does not neglect to advise means and measures necessary for its complete removal. The taking up of too great a variety of studies is fraught with danger to these individuals, as it conduces to passive dilation of the cerebral vessels, with secondary disturbances of nutrition, which culminates in cerebral anæmia, hyperæmia, headache, neuralgia, loss of mental tone, or some other more serious morbid mental condition.

We are all well aware that the nervous temperament predominates in American women, which is now recognized to be due to some trophic lesion. This being readily transmissible from parent to child, if we are to avoid its continuance or full development in the young, we must resort to such means and methods as will produce a better type of physical constitution and mental stamina in them. Hence the great indication of the age in the prevention of nervous diseases, is to harmonize the physical and mental organizations in such a manner that their correlative forces equally balance.

Besides education another factor which powerfully affects the production, multiplication and spread of nervous diseases, is that of

MARRIAGE.

In every individual two streams of ancestry mingle, each of which furnish their own specific mental, moral and physical characteristics. As a general law the stronger character, for the time, predominates, but never so strongly as to completely overcome the weaker. Pure blood should certainly be the desire and lofty ambition of every individual. The promulgation that "the iniquities of the fathers shall visit the children, unto the third and fourth generation," cannot be gainsaid. "Blood will tell" is the forcible phraseology of expressing it among the masses. Who can deny the fact that our country today stands in need of more healthy men and women, and one way to secure these is by wisely regulating matrimony.

Every marriage, we must remember, acts upon society in a fourfold relation, by first affecting the conjugal pair, second their progeny, third their relatives, and fourth the community in which they live.

As physicians we are all well acquainted with the laws of heredity as found to exist in human nature, hence, you will understand me when I say that I believe in certain cases, and to some extent, at least, *marriage should be governed by law*, that is by wise and judicious legislation, for in the light of facts, who can truthfully argue that it is nobody's business whom we marry. Habitual governmental regulation of marriage comes with higher grades of civilization.

The Spartans regulated marriage with sole reference to the good of their republic. Men were subjected to severe penalties if they married too early or deferred it too late. Unhealthy children were destroyed as unfit to live. (And right here allow me to say that such a movement is already on foot in this country.) Every care was used by the Spartans to insure the health and strength of infants and children. But instead of studying the interests altogether of the state and nation, we, as a Christian people, should view it from a more humane and philosophical standpoint.

Generally speaking, no special effort is now being made on the part of parents and guardians to choose proper society for their wards. Those easy American habits which permit, unchecked, the free social mingling of the young without regard to the laws of heredity, often result in the marriage and intermarriage of consumptives, epileptics, and other diseased and defective individuals, while the less demonstrative insane and more demented specimens of humanity have also free access to all classes of society. Even the known vicious and morally perverse often form unions in the more devout and pious families. We, as physicians, know too well the sad import of such thoughtless and ill assorted marriages; especially, therefore, is it our duty to impress upon the minds of parents the necessity of wisely informing their children on these matters, lest ignorance prove a future source of evil. The responsibility of the medical profession in relation to the coming manhood and womanhood of our race cannot be over-estimated.

The American, however, is accustomed to regard his individual rights to the exclusion of all others, and the conviction that a man can be what he wills to be, is lodged in the most intimate fiber of his being. Such an idea, however, we all know to be erroneous, especially when subject to the laws of heredity, and the results of its misapplication are self-evident.

Physicians who have children growing up under their professional care should be careful to have them well developed physically, even if it be at the expense of their education, for there is no doubt that we too often sacrifice the constitution for what is deemed educational necessities,

The prime necessity in our children is to have plenty of bone, blood and muscle, and to be well developed, with an accurate balance between the physique and the nervous system, and if something has to be sacrificed let it, by all means, be their education and not their physical health.

It has long been my conviction that the children of neuropathic constitutions should be kept fat from birth, and when they arrive at the school age their brains should not be forced.

As a general rule these children are precocious, hypersensitive, and possessed of a vivid imagination, in other words they are the "smartest" of the class. Their parents and friends admire their quickness to learn, and urge the teacher to push them forward to the fullest extent, that they may out-distance all competitors. All such precocity, however, should be discouraged and condemned, as it is said by the very best authorities, to be a sure sign of biological inferiority.

Again it seems to me that our local city authorities are too prone to ignore *medical aid* in their sanitary and educational legislation. No class of persons are better prepared to give more useful advice in such matters than the well trained, educated, scientific physician. More especially is this true of education, and it has long been my belief that a wisely selected medical board should be appointed in every city, whose duties should be to inspect the public schools at regular intervals and determine which children should and which should not be allowed to study the more difficult branches.

It is nonsense, in my judgment, to regard the child's age as the criterion of its mental strength and capacity, which is largely the present rule. It seems far more logical and scientific to me, to allow the child's body weight to govern this. Definite standards of weight should be fixed for every age and height, and every school boy and girl *having a nervous constitution*, whether it be congenital or acquired, should be weighed at regular stated intervals, and if found to be below the fixed standard of weight they should be compelled to forego some or all of their studies and be placed under proper treatment until the loss in body-weight is made up.

All authorities are agreed that the first evidence of mental deterioration is manifest in a loss of body-weight, and that children of neuropathic constitution should always be kept fat.

They should be taught to lead regular systematic lives, and the necessity of developing fat and muscle as well as the dangers attending such neglect.

In my judgment, it is outside the province of the responsible duties of a principal of a school to enforce such rules or determine which child shall, and which shall not study hard. It needs at best a skilled physician or

neurologist, one who has given special attention to this particular department of medicine.

Such a plan would also prevent much undeserved censure on the part of the principals and teachers when the parents complain that their children have been unnecessarily kept back in their grades or classes.

Chancellor Canfield, now of the Nebraska University, claims, in a recent address, that the medical profession is losing its hold on society, and is not as much respected today as formerly. This, he claims, is due to our indifference to purely local questions of public health and sanitation, ignoring, to a large extent, the great importance of the prevention and spread of disease.

Let this be as it may, it is certain that we, as physicians, must be more active and alert in this direction, and not until we, as a body, take a more decided and definite stand, can we hope to successfully stem the rapidly advancing tide of both organic and functional nervous diseases.

If I have succeeded in calling your attention to a subject which, in my judgment, demands immediate action, I shall feel that the time has not been spent in vain.

